

MEDICAL POLICY

**SUBJECT: LIMB PNEUMATIC COMPRESSION
DEVICES FOR VENOUS
THROMBOEMBOLISM PROPHYLAXIS**

**EFFECTIVE DATE: 06/27/13
REVISED DATE: 06/26/14, 10/15/15, 06/16/16,
07/20/17, 07/19/18**

**POLICY NUMBER: 1.01.51
CATEGORY: Technology Assessment**

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- *If a product excludes coverage for a service, it is not covered, and medical policy criteria do not apply.*
- *If a commercial product (including an Essential Plan product) or a Medicaid product covers a specific service, medical policy criteria apply to the benefit.*
- *If a Medicare product covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.*

POLICY STATEMENT:

- I. Based on our criteria, pneumatic compression devices have been medically proven to be effective and are considered **medically appropriate** when used in the home for deep vein thrombosis prophylaxis after major surgery, including major orthopedic surgery, in patients when pharmacological prophylaxis is contraindicated. Use of pneumatic compression device is allowed for up to 30 days post-operatively.
- II. Based upon our criteria and assessment of peer-reviewed literature, use of pneumatic compression devices for prevention of deep vein thrombosis, other than as described in Policy Statement I, is considered **not medically necessary**.

Refer to Corporate Medical Policy 1.01.17 Pneumatic Compression Devices/Lymphedema Pumps

POLICY GUIDELINES:

- I. Major orthopedic surgery includes total hip arthroplasty (THA), total knee arthroplasty (TKA), or hip fracture surgery (HFS).
- II. American College of Chest Physicians (ACCP) guidelines on prevention of VTE in orthopedic surgery patients list the following general risk factors for bleeding:
 - A. Previous major bleeding (and previous bleeding risk similar to current risk),
 - B. Severe renal failure,
 - C. Concomitant antiplatelet agent, and
 - D. Surgical factors: history of or difficult-to-control surgical bleeding during the current operative procedure, extensive surgical dissection, and revision surgery.
- III. The Federal Employee Health Benefit Program (FEHBP/FEP) requires that procedures, devices or laboratory tests approved by the U.S. Food and Drug Administration (FDA) may not be considered investigational and thus these procedures, devices or laboratory tests may be assessed only on the basis of their medical necessity.

DESCRIPTION:

Pneumatic compression devices have been utilized in the post-operative period for prevention of deep vein thrombosis. The devices include various types of wraps for the arms or legs and a programmable control module. The wraps of some of these devices are capable of providing cooling or heating to the extremity. Examples of devices which can be used in the home after discharge include the VascuTherm2 (Thermotek, Inc) and the Triple Play VT[®] (Compression Solutions, Inc).

RATIONALE:

Anticoagulation is the mainstay of DVT prophylaxis after major surgery and is sometimes continued into the outpatient setting. Treatment with pneumatic compression devices may offer an additional benefit when used in conjunction with anticoagulation in the inpatient setting, but is not commonly used in the outpatient setting. Studies involving the use of compression devices post-operatively are limited; the studies are often small, nonrandomized with considerable variation in the comparison studies by type of compression stocking and intermittent compression device used, patient group, DVT detection method, and prophylaxis protocol. Many of the studies are in the setting of the hospital rather than outpatient, consequently conclusions from the hospital setting may not be able to be applied to the outpatient setting. This is due to differences in the levels of mobility in the hospital versus the outpatient setting, which may change the

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risk for DVT. Also, the use of pneumatic compression devices in the hospital can be more highly controlled and monitored. In the outpatient setting, there are questions about the degree of compliance with the devices, including the ability to correctly use them in the absence of professional supervision.

In 2011, the American Academy of Orthopaedic Surgeons (AAOS) published an updated guideline on prevention of venous thromboembolism in patients undergoing elective hip and knee arthroplasty. The work group recommended the use of pharmacologic agents and/or mechanical compressive devices for the prevention of venous thromboembolism in patients undergoing elective hip or knee arthroplasty who are not at elevated risk beyond that of the surgery itself for venous thromboembolism or bleeding (moderate recommendation), and who have also had a previous venous thromboembolism (consensus recommendation). For those patients undergoing elective hip or knee arthroplasty, who also have a known bleeding disorder (e.g., hemophilia) and/or active liver disease, mechanical compressive devices for preventing venous thromboembolism is recommended (consensus recommendation).

The American College of Chest Physicians (ACCP) (2012) recommended the use of limb compression devices in non-orthopedic general and abdominal-pelvic surgical patients, in patients who were classified as low risk for VTE and moderate risk for VTE and high-risk for bleeding rather than no prophylaxis and as an option for those individuals with moderate and high risk for VTE and who were not at high risk for bleeding in addition to pharmacologic prophylaxis.

In 2007, the American College of Obstetricians-Gynecologists (ACOG) published a practice bulletin on prevention of DVT and PE after gynecologic surgery. As with the ACCP recommendations, described above, prophylaxis recommendations varied according to patient risk level. For patients at moderate and high risk of DVT, intermittent pneumatic compression was one of the recommended options for DVT prophylaxis. For patients at highest risk i.e., older than 60 years plus prior VTE, cancer or molecular hypercoagulable state, IPC or graduated compression stockings plus LDUH or LMWH was recommended as a prophylaxis option. The devices should be used continuously until ambulation and discontinued only at the time of hospital discharge except for the highest risk patients, who should consider prophylaxis for 2-4 weeks after discharge.

A Cochrane review by Naccarato, et al. (2010), identified 2 clinical trials and 2 small studies using gradient compression stockings (GCS) or intermittent pneumatic compression (IPC) devices for DVT prophylaxis in stroke patients. The authors concluded that evidence from randomized trials does not support the routine use of GCS to reduce the risk of DVT after acute stroke. There is insufficient evidence to support the routine use of IPC to reduce the risk of DVT in acute stroke and further larger randomized studies of IPC are needed to reliably assess the balance of risks and benefits of this intervention.

CODES: Number Description

Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract.

CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY.

Codes may not be all inclusive as the AMA and CMS code updates may occur more frequently than policy updates.

Code Key: Experimental/Investigational = (E/I), Not medically necessary/ appropriate = (NMN).

CPT: No code(s)

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<u>HCPCS:</u>	E0650	Pneumatic Compressor, nonsegmental home model
	E0651	Pneumatic compressor, segmental home model without calibrated gradient pressure
	E0652	Pneumatic Compressor, segmental home model with calibrated gradient pressure

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- E0660 Nonsegmental pneumatic appliance for use with pneumatic compressor, full leg
- E0666 half leg
- E0667 Segmental pneumatic appliance for use with pneumatic compressor, full leg
- E0669 half leg
- E0671 Segmental gradient pressure pneumatic appliance, full leg
- E0673 half leg
- E0675 Pneumatic compression device, high pressure, rapid inflation/deflation cycle for arterial insufficiency (unilateral or bilateral system)
- E0676 Intermittent limb compression device (includes all accessories), not otherwise specified

ICD10:

- M05.00-M05.09 Felty's syndrome (code range)
- M05.20-M05.29 Rheumatoid vasculitis with rheumatoid arthritis (code range)
- M05.30-M05.39 Rheumatoid heart disease with rheumatoid arthritis (code range)
- M05.40-M05.49 Rheumatoid myopathy with rheumatoid arthritis (code range)
- M05.50-M05.579 Rheumatoid polyneuropathy with rheumatoid arthritis (code range)
- M05.60-M05.79 Rheumatoid arthritis of unspecified site with or without involvement of other organs and systems (code range)
- M05.80-M06.09 Rheumatoid arthritis with or without rheumatoid factor (code range)
- M06.1 Adult-onset Still's disease
- M062.0-M06.29 Rheumatoid bursitis (code range)
- M06.30-M06.39 Rheumatoid nodule (code range)
- M06.4 Inflammatory polyarthropathy
- M06.80-M06.9 Other specified rheumatoid arthritis (code range)
- M08.00-M08.29 Unspecified juvenile rheumatoid arthritis (code range)
- M08.3 Juvenile rheumatoid polyarthritits (seronegative)
- M08.40-M08.48 Pauciarticular juvenile rheumatoid arthritis (code range)
- M08.80-M08.99 Other juvenile arthritis (code range)
- M12.00-M12.569 Chronic postrheumatic arthropathy (Jaccoud) (code range)
- M15.0-M19.93 Osteoarthritis (code range)
- M80.051A-M80.859A Osteoporosis (code range)
- M84.451A-M84.659A Pathological fracture, hip or femur, initial encounter for fracture (code range)
- S72.001A-S79.099A Fracture of lower extremity, initial encounter for fracture type (code range)
- Z47.1 Aftercare following joint replacement surgery
- Z96.641-Z96.659 Presence of artificial lower extremity joint (code range)

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KEY WORDS:

Venodyne, VascuTherm2, Triple Play VT®

CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

There is currently a National Coverage Determination (NCD) and a Local Coverage Determination (LCD) for Pneumatic Compression Devices. Please refer to the following websites for Medicare Members:

NCD SITE: <http://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=225&ncdver=1&bc=AgAAgAAAAAA&>

LCD SITE: https://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?LCDId=33829&ver=32&CtrctrSelected=137*1&Ctrctr=137&s=41&DocType=Active&bc=AggAAIAIAAAA%3d%3d&